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Kavishe, Neema; Jefferson, Ian; Chileshe, Nicholas

DOI:
10.1108/BEPAM-01-2018-0010

Document Version
Peer reviewed version

Citation for published version (Harvard):
Kavishe, N, Jefferson, I & Chileshe, N 2019, 'Public-private partnerships in Tanzanian affordable housing scheme: Policy and regulatory issues, pitfalls and solutions', *Built Environment Project and Asset Management*, vol. 9, no. 2, pp. 233-247. https://doi.org/10.1108/BEPAM-01-2018-0010

Emerald Built Environment Project and Asset Management

Public-private partnerships in Tanzanian affordable housing schemes: Policy and regulatory issues, pitfalls and solutions

Journal:	*Built Environment Project and Asset Management*
Manuscript ID	BEPAM-01-2018-0010.R3
Manuscript Type:	Research Paper
Keywords:	PPP, Private Sector, Construction Industry, Delivery, Developing Countries, Housing

Public–private partnerships in Tanzanian affordable housing schemes: Policy and regulatory issues, pitfalls and solutions

Purpose: This study identifies and ranks policy and regulatory framework factors and pitfalls in the delivery of Tanzanian public–private partnerships (PPP) affordable housing schemes. The strength of interactions between pitfalls is established, with practical solution proposals offered.

Design/methodology/approach – Primary data were collected from questionnaires administered to 28 Tanzanian stakeholders. Semi-structured interviews with public and private sector respondents then complemented survey findings with proposed solutions. The quantitative data were analysed using descriptive statistics, mean scores, parametric tests and correlation analyses. Directed content analysis was used for the interview transcripts.

Findings – Results show that "current PPP policy and guidelines need further improvement" and "Tanzania has a PPP policy and clear regulatory framework" were rated higher as policy and regulatory factors. In contrast, "poor planning skills and analytical capacity", "high cost of building materials", and "inadequate access to housing finance" were the critical pitfalls. Most practical solutions were broadly financial in nature, or related to training, project management or PPP-enabling environments.

Originality/value – The paper provides solutions that can be tailored to international practitioners interested in understanding the effects of PPP policy, regulatory issues and pitfalls on sub-Saharan Africa (SAA) and other similar developing economies.

Keywords: Tanzania, Policy and regulatory factors, Pitfalls, Solutions, Affordable housing schemes, Public–Private Partnerships

1. Introduction

The supply of affordable houses remains a significant challenge in most developing countries **and sub** Saharan Africa **(SAA)** (Ardonceau, 2018). Tanzania, like most emerging economies, faces similar pitfalls with its continuously growing population and urbanisation rates. Most governments in developing countries have therefore encouraged the adoption of the popular public–private partnership (PPP) strategy to deliver affordable/low-cost housing projects for low-income groups (Trangkanont and Charoenngam, 2014). The importance of PPPs in most developing countries is further evidenced by the amount of investment. For example, according to Romero (2016), from 2003–2013, over US$3.7 billion was invested through private participation in infrastructure in Tanzania. However, according to World Bank (2016), PPPs in **SAA have** a very small market, with most projects situated in only a few countries, including South Africa, Nigeria, Kenya, and Uganda.

As suggested in the World Bank report on Tanzania (2016), global good practice dictates that a sound institutional and regulatory framework is critical to success in PPP programs. The Tanzanian government has continued to encounter several challenges including the lack of comprehensive policy, legal and institutional frameworks providing clear guidelines and procedures for development and implementation of PPPs (World Bank, 2016). This lack of a legal and regulatory framework **or enabling regulatory environment affects the success of PPPs in developing countries (Sharma, 2012).** These challenges have led to failures including the early termination of some PPP projects (World Bank, 2016). Until 2011, Tanzanian PPPs were implemented under laws such as the *Public Corporations Act 1992* or structural reform policies. However, changes occurred in December 2014 with revision of the previous *2010 PPP Act* (Mboya, 2013, World Bank, 2016). New PPP regulations were put in place in November 2015 (World Bank, 2016).

Tanzanian PPP studies have been very limited **with** few studies **having** focused more on factors affecting joint venture formation (Minja *et al*., 2012), while Mboya's (2013) study on successes of and constraints to improving PPPs, being a discussion paper, was non-empirical. **More recently, Kavishe *et al*. (2018) study focussed on PPP in housing projects**. **However**, Akintoye and Kumaraswamy (2016) **classified** seven additional PPP research themes, **and** clearly indicated the need for more PPP empirical studies. Therefore, in response to the identified research agenda, the knowledge gaps on the third theme, namely, '***regulatory and institutional frameworks and challenges'***, there are three objectives of the present study. First, it intends to identify and rank the influencing policy and regulatory framework factors, including the pitfalls that hinder PPP project delivery within Tanzanian AHSs. Second, it aims to establish the interactions between the identified pitfalls. **Third**, it aims to propose practical solutions. The study's findings are significant as most emerging markets and developing economies are beset by numerous pitfalls, inadequate regulatory and institutional frameworks, and poor PPP-enabling environments.

2. Literature review

Several studies have reported on the prevailing PPP policy and regulatory framework guidelines in Tanzania, emerging markets and developing economies (World Bank, 2016; Romero, 2016). To date, most of these PPP studies have largely focused on the identification of critical success factors, and barriers to the implementation process (Babatunde *et al*., 2015). In the literature review, several different studies on challenges to successful PPP implementation within AHSs were identified. For instance, the absence of national policy which would work as a guide for PPP implementation in the housing sector was identified as one of the key **challenges** faced in the attempt to employ PPPs in order to increase access to affordable housing across several **SAA** markets (Ardonceau, 2018). Table I presents a summary of the reviewed literature that explored key pitfalls influencing successful PPP implementation within AHSs.

< Insert Table I here >

The studies were selected based on their experience of housing deficits due to high population growth. The literature also identified various pitfalls in PPP projects, ranging from difficulties in housing provision strategies (Moskalyk, 2011) to success and failure factors (**Trangkanont and Charoenngam, 2014)** Some pitfalls are similar or common and country-specific (Trangkanont and Charoenngam, 2014), with some pitfalls dependent on a country's level of understanding and extent of development towards the partnership model, and varying according to the country's degree of PPP knowledge (Moskalyk, 2011).

The review highlighted the limited number of empirical Tanzanian-specific PPP studies and their associated narrow focus (non-construction). To fill that knowledge gap, this study investigates the influencing policy and regulatory framework factors, and the pitfalls in PPP project delivery within Tanzanian AHSs. Practical solutions are proposed to the identified pitfalls.

3. Research methods

This study adopted a convergent parallel (concurrent) mixed-methods approach with triangulation design **similar to previous PPP studies such as Kurniawan *et al.* (2014)** This consisted of six steps: 1) literature review; 2) pilot survey; 3) questionnaire survey; 4) interviews; 5) statistical analysis; and 6) content analysis. The rationale for this approach was to enhance validity, **convergence, triangulation**, and complementarity (Cameron, 2009). **Secondly, since the main objective was to obtain different but complementary data to answer a single research question this study implemented a *convergent parallel (concurrent)* mixed method design. A questionnaire survey method (*quantitative research*) and semi structured interviews (*qualitative research*) were used. That is, the data collection and analysis for the qualitative and quantitative were done concurrently (Creswell, 2014). Both quantitative and qualitative approaches have equal priority status (Halcomb and Hickman, 2015).**

3.1 Measurement instrument

The questionnaire survey had three distinct sections as follows: (1) demographics; (2) policy and regulatory framework factors; and (3) pitfalls influencing the implementation of PPPs in AHSs. **For sub-sections (2) and (3), the respondents were asked to rate their levels of agreement using a 5-point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree and 5= strongly agree. As recommended by Albaum (1997, pg. 332), the Likert scale included and measured both the *directional* (i.e. by 'agree. / disagree) and *intensity* (i.e. by 'strongly' or not). Furthermore, this scale was adopted due to its ability to detect the feelings that respondents have about their attitudes (Albaum, 1997).** However, to bridge links between the literature review and the questionnaire development for items included within the 'policy and regulatory framework factors' sub-instrument, selected studies were drawn from both developing and developed economies (Sengupta, 2006; World Bank, 2016; Trangkanont and Charoenngam, 2014; Romero, 2016; Ismail and Haris, 2014a; Babatunde *et al*., 2015). **In addition, to reduce the acquiescence bias, contribute to the validity of measurement sub-instrument, and prevent response bias, section 2 had 3 positive items and 1 directly negative item (Salaza, 2015; Sonderen *et al*. 2013)**. In contrast, the 'pitfalls' sub-instrument was largely based on the studies summarised in Table I. **Drawing upon the approach undertaken by Ismail and Haris (2014b), the study only comprises the eight pitfalls affecting the delivery of PPPs AHSs that are relevant within the Tanzanian context**

3.2 Survey administration

The study used purposive sampling amongst the targeted population of stakeholders involved in PPP AHSs in Dar es Salaam, Tanzania. Without an official list or standard database specifying the number of

stakeholder organisations involved in PPP projects, the study identified only two public organisations, including their projects (National Housing Corporation [NHC: 183 projects] and National Social Security Fund [NSSF: 1 project]); private partners and consultants. Of the 38 questionnaires administered, 28 were returned and considered valid, representing a response rate of 78%.

3.3 Data analysis

The quantitative data were analysed using *IBM's Statistical Package for the Social Sciences software version 25*. Parametric tests measured the significance of the 'factors' and 'pitfalls' influencing PPP implementation in AHSs. **Drawing upon Ling and Nguyen (2013), the cut off point for 5–point scale was set at "3.5" ($\mu = 3.5$), the hypothesis is introduced to measure the criticality of the variables (i.e. regulatory factors and pitfalls) under investigation. Whereas, the value of "3" would be the middle point on a 5-point Likert scale, this would be equivalent to the identification of 50% of variable affecting the PPP in AHS. Therefore, given the importance and lack of PPP related studies within Tanzanian AHSs (Sharma, 2012), a value higher than 50% for the measurement of the criticality of the variables is appropriate. To that end, the μ value of 3.5 and using the procedures for the single-sample *t* test was conducted as outlined in Cronk (2012).. The rationale and explanation of the null hypothesis thus is that the policy and regulatory framework factors and pitfalls affecting the delivery of Tanzanian PPP AHSs to a significant effect, whereas the alternative hypothesis is that these factors and pitfalls are not significant, and less important**

In undertaking further ranking analyses to obtain the relative importance of policy and regulatory factors, and pitfalls, descriptive statistics tests were employed. Such analyses have been used in previous PPP studies as a basis for obtaining some type of priority among the PPP variables under investigation (Babatunde *et al*., 2015; **Ismail and Haris 2014a; Bayiley and Teklu, 2016)**. In examining the interactions

and strength of relationships between identified pitfalls, Pearson's correlation analysis was conducted. Finally, the Kendall's concordance analysis and associated coefficient of concordance (*W*) determined the level of consensus on the 'policy and regulatory framework factors' and 'pitfalls' (Osei-Kyei and Chan, 2017b).

3.4 Interviews

In total, 13 semi-structured interviews were conducted with management staff from the public and private sectors **between July and August 2016 in Dar-es-Salaam, Tanzania. The rationale for choosing Dar es Salaam as the study area includes: accessibility to conduct interviews in order to obtain required data. The duration of the interviews was between approximately 45 –100 minutes**. Due to PPPs being a new approach in Tanzania (World Bank, 2016); a purposive sampling was used to select the interviewees. They [interviewees] were purposely selected in order to obtain valid information because not all building construction participants are familiar with PPPs in developing countries such as Tanzania. Besides, this sampling approach has been considered appropriate and widely adopted by other researchers in PPP related studies in Indonesia (Trangkanont and Charoenngam, 2014); Nigeria (Babatunde *et al*., 2015); and Ghana (Osei-Kyei *et al*., 2017a, b).

Purposively sampling also provided the ability to control the level of variation amongst the Tanzanian interviewees. Therefore, a criterion-based approach was used in the selection of interviewees based on the following: (i) Respondents needed to be involved in the PPP housing projects, have either hands-on experience in such projects or research; and (ii) from public or private sectors, a partner or financier, or a consultant or contractor to the PPP housing projects.

The interview questions followed suggestions from Patton (2002), with underlying themes of improvements in regulatory frameworks and the associated pitfalls associated with PPPs, with directed content analysis

used for interview transcripts. The participation checks and validation of transcribed interviews followed the '***member checking***' approach as suggested by **Creswell (2014, pg.251)**. This **entailed having the** transcribed transcripts emailed to interviewees for their feedback and agreement on the accuracy, enhancing the validity and reliability of the collected interview data.

3.5 Survey sample characteristics

Out of 28 **respondents**, 17.9% were quantity surveyors; 14.29% were engineers; with land valuation agents and architects each equal on 10.71%; and 46.39% comprising other professionals. Of these, one was a lawyer. **Experience-wise**, 25% had between 11 and 15 years; 17.86% had more than 15 years; and an equal proportion of 28.5% fell within the 'less than 5' and '11–15' years' categories. **The majority (39.3%)** were in the public sector and 32.15% who were consultants. The remainder were evenly distributed amongst private developers, contractors, financiers, researchers and a PPP advisor.

Regarding involvement with PPP AHSs projects, 50% of respondents had been involved in 'more than two' PPP projects; and equal proportions of 25% were in the categories of 'less than two' or 'over 10' projects. This finding suggests the growing trend in the usage of PPPs, as evidenced by some respondents' extensive experience in managing these projects.

3.6. Profile of interviewees

Table II presents the interviewee profiles. **Population-wise**, **the** 13 interviewees can be considered as very good **given** the limited **PPP** research undertaken to date in within the Tanzanian context. Furthermore, the sample size can be deemed enough as 13 interviewees falls between the five and 50 interviews required to achieve saturation (Patton, 2002).

<Insert Table II here>

Except for **Interviewees E** and **G**, the rest had some form of experience with PPP AHSs projects. The limited experience with PPP AHSs, **and higher number of public respondents** can be explained by Tanzania's regulatory body coming into existence in 2012 (World Bank, 2016). Most interviewees (69%) were from the public sector, suggesting the **skewness of the** sample. However, the literature review addressed this limitation by validating some observations and findings. Only two public sector organisations, the NHC and the NSSF, had adopted PPPs as an alternative housing delivery strategy. Nevertheless, the questionnaire survey findings overcame this limited potential bias toward the public sector by including private sector respondents.

4. Findings and discussions

4.1 Agreement and consistency of responses

To establish whether they were any agreement and consistency of responses around the four policy and regulatory framework factors and eight pitfalls, the Kendall's concordance analysis at a pre-defined test value of 0.05 was undertaken (Osei-Kyei and Chan, 2017b). The *W* values obtained for the 'pitfalls' and 'policy and regulatory framework factors' were 0.305 and 0.182, with significance values of 0.000 and 0.002 respectively. As suggested by Osei-Kyei and Chan (2017b), the chi-square (χ^2) was used for the pitfalls than the computed *W* values due to the number of attributes (i.e. pitfalls) exceeding seven. From the results obtained, the critical value of the χ^2 was 14.08 and less than the computed value of 57.585 with degrees of freedom (*df*) of 7 thus confirming that there was agreement in the levels of consensus in the scoring of the pitfalls among the respondents. Similarly, based on the *W* value of the 'policy and regulatory framework factors' which was 0.182 further confirms that there was agreement in the ranking of the factors by the respondents and significance (*p*) value of 0.002 was also less than 0.05. Despite the critical value of χ^2

being 7.814 and less than the computed value of 14.721, the rationale for using the *W* value for determination of the level of consensus or concordance for the 'policy and regulatory framework factors' was due to the number (n=4, i.e. *df* =3) of the variables being less than seven.

4.2 Mean ranking of policy and regulatory framework factors

Table III presents the descriptive results of the analysis for four policy and regulatory framework factors and eight pitfalls.

<Insert Table III here>

As shown in Table III, the mean values for the four factors range from 3.889 to 2.960, suggesting differences in perceptions among respondents. **Despite the limited number of items (n=4) within this category, ranking was nevertheless conducted as this applies to studies whose overall aim among others is to classify items and making decisions (Fabbris, 2013). More so, previous PPP related studies with similar number of items (or fewer) have used such an approach (Ismail and Haris, 2014a; Bayiley and Teklu, 2016).**

The factor "current PPP policy and guidelines in Tanzania need further improvement" (mean = 3.889), although viewed as the most important **influential** on PPP project delivery in Tanzanian AHSs, was found to be not statistically significant (t (26) = 1.924; p = 0.065 > 0.05). In response to improving PPP housing delivery in Tanzania, the largest interviewee group (n = 4) (**Interviewees D, I, K** and **L**) identified "PPP-enabling environment"-related solutions such as "provision of attractive environment for private partners to invest in the housing sector" (**Interviewees D** and **I**); "provision of free land" (**Interviewee I**); and "providing more enabling environment through incentives such as tax holidays to investors" (**Interviewee M**). Furthermore, this finding is consistent with the PPP literature (see Table I) regarding the critical

assessment of PPPs in developing countries (Trangkanont and Charoenngam, 2014; Romero, 2016; World Bank, 2016). For instance, Romero's (2016) study reported that donor governments and financial institutions, such as the World Bank, have set up multiple donor initiatives to promote changes in national regulatory frameworks to allow for PPPs, as well as providing advice and finance to PPP projects. Another plausible reason for the PPPs requiring improvement might be due to the young regulatory environments in developing countries, such as Tanzania, with this exacerbated by the insufficient capacity to supervise public–private contracts (Romero, 2016).

"Tanzania's PPP policy and clear regulatory framework" (mean = 3.519) was ranked the second most important factor; however, it was not statistically significant (t (26) = 0.088**;** p = 0.930 > 0.05) nor consistent with the few earlier studies. For instance, the World Bank (2016) acknowledged that Tanzania has a comprehensive PPP framework, with Romero (2016) singling out the *2011 PPP Act* as having changed the institutional setting for managing PPPs in Tanzania. Despite the higher ranking of this factor, the guidelines are very much in need of further improvement to achieve additional capacity building skills as Tanzanian PPP projects continue to be selected in an ad hoc manner (World Bank, 2016, **pg**. 7). In contrast, a statistically significant difference was found for the least ranked factor, specifically "Tanzania's PPP policy and regulatory framework clearly provides appropriate guidance" for PPP project implementation (t (27) = -2.478; p = 0.020 < 0.05). **Despite the opposite directional wording of the first factor, the comparison of the mean scores between the first and second factors suggests that the respondents missed the contents between these two consecutive items (Sonderen *et al*. 2013). More so, recognition of negative items is dependent on cultural issues with Western countries having better recognition abilities than developing countries (Salazar, 2015).**

4.3 Mean ranking of pitfalls

From Table III, the mean values of the eight pitfalls ranged from 4.750 to 3.464 suggesting that these were viewed as seriously influencing PPP AHSs in Tanzania. Furthermore, Table III shows that 50% of the pitfalls influencing successful PPP implementation in AHSs did not have a statistically significant difference (Test 2: mean > 3.5, *t*-value positive, $p > 0.05$). Furthermore, Table III indicates a statistically significant difference ($p < 0.05$) between perceptions for the remaining 50% of pitfalls. Interestingly, seven pitfalls attained a mean value greater than 3.5. The following subsections present a brief discussion of pitfalls in the top and lower quartiles.

"Poor planning skills and analytical capacity in formulating affordable housing proposals" (mean = 4.750) was viewed as the most critical pitfall hindering the successful PPP project delivery in AHSs in Tanzania. The lower value of the standard deviation (SD = 0.441) further reinforced respondents' consensus in their higher ranking of this pitfall and was consistent with the few earlier studies. For instance, the World Bank (2016) attributed poor planning skills and analytical capacity to the higher proportion of Tanzanian PPP projects subjected to early termination compared to the global average.

"High costs of building materials" (mean = 4.750) was ranked as the second most important pitfall, with this factor also statistically significant (t (27) = 15.000; $p = 0.000 < 0.05$). This finding was consistent with earlier PPP literature regarding pitfalls. For instance, Ismail and Haris (2014a) identified the factor of "high project costs" whereas Trangkanont and Charoenngam (2014) identified "housing finance constrains" as being among the operational constraints which could derail PPP scheme formulation and implementation. Most (77%) interviewees in the present study identified "high costs of building materials" as a highly ranked pitfall, further compounded by "high value-added tax (VAT) at 20%" as highlighted by **Interviewees A** and **M**. The proposed suggestion was that economic variables such as VAT and "cost of building materials" must be provided for PPP projects in AHSs in Tanzania to flourish.

"Inadequate access to housing finance" (mean = 4.464) was ranked as the third most critical pitfall. Despite the ranking, this pitfall had a lower standard deviation (SD =0.506) and was statistically significant (t (27) = 8.855; p = 0.000 < 0.05). The results coincide with the findings of Sengupta, (2006) and Trangkanont and Charoenngam (2014). Likewise, **Interviewee D** observed that low-income groups did not qualify for loans. **Interviewees C, F** and **K** also identified "inadequate housing finance" as a pitfall, with **Interviewee B** acknowledging that housing was not even considered in the Tanzanian government's annual budget.

In the lower quartile, "lack of Government subsidies" and "poor performance by the housing sector in the country" were ranked at 7**th** and 8**th** with mean scores of 3.679 and 3.464, respectively. These pitfalls were not statistically significant (t (27) = -0.166**;** p = 0.869 > 0.05) and (t (27) = 1.044**;** p = 0.306 > 0.05), respectively. Within the Tanzanian context, poor performance in the housing sector and PPP implementation and the lack of government subsidies are well documented in the literature (World Bank, 2016). The same study identified and ranked Tanzania's infrastructure as worse than that of its neighbouring countries, Zambia and Uganda, and, in terms of its competitiveness, substantially worse than Kenya and Rwanda. Similarly, poor quality of some housing projects has been identified among the challenges around the utilization of PPPs in addressing access to affordable housing across various SSA markets (Ardonceau, 2018).

4.4 Correlation analysis

To achieve the study's second objective, Pearson's correlation coefficient and the coefficient of determination were computed for the eight pitfalls, with the results summarised in Table IV.

<Insert Table IV here>

Table IV **shows that** four of the 28 correlations were significant with "poor access to land" and "high costs and difficulties of acquiring land" showing strong positive correlations (r = 0.588; n = 27; p = 0.001 < 0.01).

The relationship between these variables is positive, which indicates that, as it becomes more increasingly difficult to access land, the costs associated with acquiring land will increase thus making the delivery of public–private partnership (PPP) affordable housing schemes in Tanzania attainable. This result highlights the significance of land provision by the public sector being accompanied by low costs [of accessing land] with funding injections from the private sector. One reason for this strong and positive correlation is that countries (i.e. India, Mexico, Chile and Brazil) that have successfully implemented PPP programs have relied on 25–30% private sector financial contributions (World Bank, 2016). The coefficient of determination ($0.588^2 = 0.3457$) shows that 34.57% of the variance in poor access to land can be accounted for by higher costs of building materials. Therefore, as suggested by Ardonceau (2018), there is a need for the [Tanzanian] government to provide land for development.

The negative correlation between "inadequate access to housing finance" and "lack of Government subsidies" ($r = -0.096$; $n = 28$; $p = 0.587 > 0.01$) is also noteworthy. This implies that Government [or lack of Government] subsidies will certainly affect access to housing finance. This finding is consistent with previous studies (World Bank, 2016). As shown on Table IV, the weakest correlation ($r = 0.011$; $n = 28$; $p = 0.946 > 0.05$) was between "high costs and difficulties of acquiring land" and "poor project planning" which was also not significant ($p = 0.946 > 0.05$). The second weakest relationship, which was negative, was between "project planning" and "performance of the housing sector" ($r = -0.026$; $n = 28$; $p = 0.885 > 0.05$). This finding suggests that the application of project management tools and techniques for effective AHS delivery needs to be understood, and is reinforced and supported by Akintoye and Kumaraswamy's (2016, p. 24) observation that: "[w]ith more projects passing through the planning and construction phase into operations, there is an interest in studying the performance of infrastructure PPPs over the entire lifecycle of the asset". Similarly, Romero (2016) highlighted a lack of enough capacity for supervising public–private contracts. However, Table IV shows that the majority, 85.72% of the 28 correlations were non-significant

and weaker strength of relationships amongst the pitfalls. This demonstrates that the overcoming of the pitfalls could be done individually without depending on the other pitfalls in the quest to delivery of Tanzanian **PPPs AHSs**. For example, any organisation having "poor planning skills and analytical capacity in formulation affordable housing" would be restricted by the "access to housing finance" ($r = 0.225$, $n = 28$, $p = 0.193 > 0.05$).

4.5 Interview findings

Table V presents the summary of **21** pitfalls perceived by interviewees as hindering successful implementation of PPPs in Tanzanian AHSs, and the categorisation of their 21 practical solutions.

<Insert Table V>

Based on frequency and percentage counts, the most **critical** pitfall was "high costs of building materials" (77%); "Lack of government subsidies" (15.4%) was **second** ranked, **and whereas the** third most highly ranked was "inadequate housing finance" (23.1%). This **was** followed by "inadequate subsidies"; "lack of government support (and commitment)"; "high VAT value at 20%"; "PPP is very complex and demanding": and "less profitable to the developer" each with two counts (15.4%). The remaining 14 pitfalls were cited only once. Despite these minimum counts, the findings have added to the list of pitfalls as perceived by Tanzanian practitioners. The findings demonstrate some differences in the 8 pitfalls as experienced by different countries (see Table I). However, the ranking undertaken in Table III enabled the identification of the most relevant pitfalls in the context of Tanzania. In contrast, the identified **21** pitfalls from the interviews were very specific to Tanzanian PPP AHSs.

Despite the differences in the numbers of pitfalls generated between the two approaches, with 21 and 8 pitfalls drawn from the qualitative and quantitative approaches respectively, it is quite evident

that the following 9 related "costs" and "financial" related pitfalls of 'high costs of building materials'; 'high land prices'; 'less profitable to the developer', 'high value added tax (VAT) at 20%'; 'inadequate housing finance'; 'low income groups don't qualify for loans', 'low financial capacity', 'lack of cheap financial market" and 'difficult to pay back the invested capital' are an *expansion* of the following 3 pitfalls '2', '3' & '4' as illustrated in Table III namely 'high costs of building materials', 'inadequate access to housing finance' and ' high costs and difficulties of acquiring land'. The higher incidences of the financial related pitfalls are consistent with literature and further reinforce the importance of macroeconomic stability such as inflation in the quest for PPP delivery (Sharma, 2012). According to Creswell (2014), this comparison enhanced the complete understanding of the pitfalls in the delivery of Tanzanian PPP AHSs, as emergent from the qualitative study which were more than those provided in the quantitative study. Most importantly, as asserted by Voordijk (2012), the identification of Tanzanian specific pitfalls to PPPs helps contribute to reduction of tensions between western systems (i.e. PPPs) and life world (Tanzanian specific).

4.6 Advocated solutions

The interviews provided 21 practical solutions for improving delivery of PPPs in AHSs in Tanzania. These are broadly classified into the following categories: (1) training, (2) financial, (3) project management and (4) PPP-enabling environments. These categories were identified from the literature review and related PPP studies on barriers and solutions (Babatunde *et al*. 2015; Osei-Kyei and Chan, 2017a; World Bank, 2016). The **21** identified pitfalls were then mapped to the relevant categories. The following practical solutions were singled out: "provision of affordable housing loans"; "formation of PPP facilitation funds"; "PPP training"; "formulation of clear contracts"; "adequate feasibility studies and planning"; and "provision of enabling environment through tax holidays for investors and private developers". Some suggested solutions

are in line with previous studies (World Bank, 2016; Osei-Kyei and Chan, 2017b). These studies also highlighted the need for clear investment in training among the solutions. According, this could compensate for the issues of poor planning skills and analytical capacity of Tanzanian stakeholders.

5. Recommendations, implications and conclusions

The study used a questionnaire survey and interviews to investigate the influencing policy and regulatory framework factors, and pitfalls that hinder the delivery of successful PPP projects within Tanzanian AHSs. In addition, this study also proposed practical solutions to these pitfalls. The overall results show that "current PPP policy and guidelines require further improvement" as the highest ranked policy and regulatory factor. In contrast, "poor planning skills and analytical capacity in formulating affordable housing proposals", "high costs of building materials"; and "inadequate access to housing finance" are the top three pitfalls for PPP project delivery in Tanzania. **The interview results** show that "high costs of building materials", "lack of government subsidies' and "inadequate housing finance" as the highly cited pitfalls. Relative to the practical solutions, these were drawn from categories related to "training", "financial", "project management" and "PPP-enabling environments".

The study's significant contribution was to bridge the knowledge gap, as identified by Akintoye and Kumaraswamy (2016), in regard to the lack of studies investigating influencing policy and regulatory framework factors for PPPs within developing and developed economies. **Most importantly**, **as observed by Sharma (2012), developing countries need PPP arrangements than any other group of countries**. The findings contribute to the global knowledge by deepening international practitioners' understanding and knowledge of undertaking PPP projects, **and acting** as a catalyst for achieving successful outcomes in PPP projects.

5.1 Implications

The findings highlight the following *governmental* and *practitioner* implications. Firstly, insights and knowledge from the correlation analysis **showed** some strong positive and negative correlations between the pitfalls. These could be used to inform Government and practitioner policies towards the effective delivery of PPP projects in **Tanzanian** AHSs. For example, **the correlation results suggests that land provision needs to be done in conjunction with empowering low-income groups with the necessary analytical skills so affordable housing can be attained**. Secondly, the literature review and study findings provide an opportunity to compare best practices and draw lessons from PPP pitfalls amongst **SAA** countries, similar emerging markets and other developing economies.

The study findings reinforce the need for practical solutions tailored to local or host environment contexts. **For instance, based on the advocated solutions, the Government could strengthen and enhance the quality of its existing organisations such as the PPP coordinating and NCC units as vehicles for improving the regulatory environment (Sharma, 2012)**. Finally, the interview findings highlighted and **extended** several pitfalls not previously included in the literature, thereby **advancing** the knowledge of practitioners and academics.

6. Limitations and suggestions for future research

The study's major limitation is that the influencing PPP 'policy and regulatory factors' and 'pitfalls' are specific to the Tanzanian context and designed for AHSs; therefore, the findings cannot be automatically used to propose solutions for PPP schemes in similar emerging markets and developing economies. However, they could be customised and used as comparative best practices. Secondly, due to its cross-sectional nature and sample size, this study only captured 'a snap shot' of the perceptions of Tanzanian

professionals at a point in time. **It would be desirable** for future studies **to employ** large sample sizes to enable rigorous statistical analysis such as regression.

References

Akintoye, A. and Kumaraswamy, M. (2016), *Public Private Partnerships: A Global Review*, CIB Series TG72, Report for the International Council for Research and Innovation in Building and Construction, CIB General Secretariat, Delft, The Netherlands, 32 pp.

Albaum, G. (1997), "The Likert scale revisited: an alternate version", *Journal of the Market Research,* Vol. 39, No. 2, pp. 331-348.,

Ardonceau, S. (2018), Affordable housing: Public Private Partnerships driving progress: A case of Ghana, Kenya Nigeria, South Africa and Tanzania, Available at http://blog.africa.jll.com/public-private-partnerships-driving-progress-for-affordable-housing/ Date accessed 14 July 2018.

Babatunde, S.O., Perera, S., Zhou, L. and Udeaja, C. (2015), "Barriers to Public Private Partnership projects in developing countries: A case of Nigeria", *Engineering Construction and Architectural Management,* Vol. 22, No. 6, pp. 669-691.

Bayiley, Y.T. and Teklu, G.K. (2016), "Success factors and criteria in the management of international development projects: Evidence from projects funded by the European Union in Ethiopia", *International Journal of Managing Projects in Business,* Vol. 9, No. 3, pp. 562-582

Cameron, R. (2009), "A sequential mixed mode research design: design, analytical and display issues", *International Journal of Multiple Research Approaches*, Vol. 3, No. 2, pp. 140-152.

Creswell, J. W. (2014), *Research design: Qualitative, quantitative, and mixed methods approaches,* Los Angeles: SAGE Publications

Cronk, BC. (2012), *How to Use SPSS: a step-by-step guide to analysis and interpretation*, 7th edn, Pyrczak Pub., Glendale, CA.

Fabbris, L. (2013), "*Measurement scales for scoring or ranking sets of interrelated items*", *In*: C. Davino & Fabbris, L. (Eds.) Survey data collection and integration. Springer-Verlag Berlin Heidelberg. pp. 21-43.

Halcomb, E. and Hickman, L. (2015), "Mixed methods research", *Nursing Standard: Promoting Excellence in Nursing Care,* Vol. 29, No. 32, pp. 41-47.

Ismail, S. and Haris, F.A. (2014a), "Constraints in implementing Public Private Partnership (PPP) in Malaysia", *Built Environment Project and Asset Management*", Vol. 4, No. 3, pp. 238-250.

Ismail, S. and Haris, A. F. (2014b), "Rationales for public private partnership (PPP) implementation in Malaysia", *Journal of Financial Management of Property and Construction,* Vol. 19, No. 3, pp. 188-201.

Kavishe, N., Jefferson, I., and Chileshe, N. (2018), "An analysis of the delivery challenges influencing Public Private Partnership in housing projects: the case of Tanzania", *Engineering, Construction and Architectural Management,* Vol. 25, No. 2, pp. 202-240

Kurniawan, F., Ogunlana, S. and Motawa, I. (2014), "Stakeholders' expectations in utilising financial models for public-private partnership projects", *Built Environment Project and Asset Management,* Vol. 4, No. 1, pp. 4-21.

Ling, F.Y.Y. and Nguyen, D.S. (2013), "Strategies for construction waste management in Ho Chi Minh City, Vietnam", *Built Environment Project and Asset Management*, Vol. 3 Iss: 1, pp.141 - 156

Mboya, J.R. (2013), "PPP Country Paper – Tanzania", Paper submitted to SADC-DFRC 3P NETWORK Public-Private-Partnership Working Group, Limesstrasse, Wehreim. Available from <http://www.sadcpppnetwork.org/wp-content/uploads/2015/02/tanzania_27012014.pdf> Date accessed 19 November 2016.

Minja, S.J., Kikwasi, G.J., and Thwala, W.D. (2012), "A study of joint venture formation between construction organizations in Tanzania", *Australasian Journal of Construction Economics and Building Conference Series*, Vol. 1, No. 2, pp. 32-42.

Moskalyk, A. (2011), *Public-Private Partnerships in Housing and Urban Development*, UN-HABITAT, Nairobi, Kenya.

Osei-Kyei, R. and Chan, A.P.C. (2017a), "Implementation constraints in Public-Private Partnership: empirical comparison between developing and developed countries", *Journal of Facilities Management,* Vol. 15, No. 1, pp. 90-106.

Osei-Kyei, R. and Chan, A.P.C. (2017b), "Empirical comparison of critical success factors for public-private partnerships in developing and devloped countries: A case of Ghana and Hong Kong", *Engineering, Construction and Architectural Management,* Vol. 24, No. 6, pp. 1222-1245.

Patton, M.Q. (2002), *Qualitative Research and Evaluation Methods*, Sage Publications, London.

Romero, M.J. (2016), "What lies beneath? A critial assessment of PPPs and their assessment of PPPs and their impact on sustainable development", *European Network on Debt and Development (Eurodad).* Available from <http://www.eurodad.org/whatliesbeneath>. Date accessed 4 May 2017.

Salaza, M.C. (2015), "The dilemma of combining positive and negative items in scales", *Psicothema*, Vol. 27, No. 2, pp. 192-199.

Sengupta, U. (2006), "Government intervention and Public–Private Partnerships in housing delivery in Kolkata", *Habitat International,* Vol. 30, No. 3, pp. 448-461.

Sharma, C. (2012), "Determinants of PPP in infrastructure in developing economies", *Transforming Government: People, Process and Policy",* Vol. 6, Iss. 2, pp. 149-166.

Sonderen, E.v., Sanderman, R. and Coyne, J.C. (2013), "Ineffectiveness of reverse wording of questionnaire items: Let's learns from cows in the rain", *PLoS ONE*, Vol. 8, No. 7, pg. e68967

Trangkanont, S. and Charoenngam, C. (2014), "Critical failure factors of Public-Private Partnership low-cost housing program in Thailand", *Engineering Construction and Architectural Management*, Vol. 21, No. 4, pp. 421-443.

World Bank (2016), *Tanzania: Economic Update – The Road Less Traveled: Unleashing Public Private Partnerships in Tanzania*, Africa Region Macroeconomics and Fiscal Management Global Practice, Issue 8, May 2016, available form <http:/ /www.worldbank.org/tanianla/ economlcupdate> Date accessed 10 January 2018.

Caption: List of Tables and Figures (in order of appearance in manuscript)

Table I: Summary of selected studies on the challenges (barriers) affecting implementation of PPP in affordable housing scheme

Table II: Profile of interviewees

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Table I: Summary of selected studies on the challenges (barriers) affecting implementation of PPP in affordable housing scheme

No.	Study / Researchers[1]	Country	Findings
1	Sengupta (2006)	India	4 major bottlenecks identified at operational level as: 1) Antiquated legislation; 2) High levels of municipal taxes; 3) stamp duties and 4) sanction fees.
2	Minja *et al*. (2012)*	Tanzania	Examined the JV formation and established the following 10 associated risks: Justification of possible risks, JV agreement interpretation, Operations by different contractors, Alignment of partner strategies, Management control of local JJV, Grading JV ability and capacity, Competitive cost structure, Joint venture formation, Establishing joint goals, and Tender document pricing
3	Ismail and Haris (2014a)	Malaysia	Identified the following 14 constraints in adopting PPP projects: lack of government guidelines and procedures on PPP, lengthy delays in negotiation, higher charge to the client users, length delays because of political debate, confusion over government objectives and evaluation criteria, high risk relying on private sector, high project costs, a great deal of management time spent in contract transactions, high participation costs, lack of experience and appropriate skills, very few schemes have actually reached the contract stage (aborted before contract), excessive restrictions on participation, reduce the project accountability, and less employment positions
4	Trangkanont and Charoenngam (2014)	Thailand	Identified the following 10 failure factors of PPP low cost housing projects: 1) Inadequate tender documents; 2) inefficient management change; 3) poor contractors; 4) political intervention; 5) ineffective PPP policy and strategy; 6) weakened institutional culture; 7) policy pressure; 8) difficulties to low income group; 9) economic problems; and 10) housing finance constrains.
5	Babatunde *et al*. (2015)	Nigeria	Identified 58 barriers to public private partnerships (PPPs) in Nigeria and further used Principal Component Analysis to group these into the following 10 factor: public and private partners' capacity deficiencies, weak political willingness and administrative bottleneck, weak economic conditions and environmental related problems, social related problems, corruption and inadequate governmental actions in PPPs, low social acceptability, legal and regulatory related problems, poor internal and external stakeholders' relationships, delay and politicisation of the concessions, and absence of competition and due diligence
6	Osei-Kyei and Chan (2017)	Ghana/Hong Kong	The study compared the differences and similarities in PPP implementation constraints. The following two constraints of "lengthy delay in finalising negotiations" and "lengthy delay due to political debate" were very critical in both jurisdictions, whereas "negative public perceptions on PPP transactions" and "high use of unsolicited proposals" are of less challenge in the implementation of PPP in both jurisdictions countries. Government budgetary constraints and shortage of decent and affordable housing particularly to the low income group has been a great challenge.
7	Kavishe *et al*. (2018)*	Tanzania	Identified 19 challenges influencing the delivery of housing PPP projects. The following five were highly ranked: inadequate PPP skills and knowledge, poor contracting and tendering documents, inadequate project management, inadequate legal framework, and misinformation on financial capacity of private partners.

Notes: *Tanzanian and construction specific studies and Joint Ventures are the main forms of PPPs in most emerging markets and developing economies (countries) ; [1] Arranged in chronological order

Table II: Interviewee profile

Interviewee code	Name of organization[1]	Current position	Experience (years)	Sector[2]	Professional background	Experience with housing PPP projects (Number of projects)
A	NHC*	Legal officer	6 - 10	Public partner	Lawyer	Over 10
B	NHC*	Director of property	> 15	Public partner	Engineer	Over 10
C	NSSF	Project manager	11-15	Public partner	Engineer	1- 2
D	TBA	Managing director	>15	Public partner	Engineer	1-2
E	PPP Unit[3]	PPP Advisor	11-15	PPP Unit	Economist	none
F	NCC[3]	Consultant	>15	Public Sector	Quantity surveyor	Over 10
G	PPP Coordinating unit[3,4]	Assistant director	11-15	Investment centre	Economist	none
H	Salim Company.	Director	>15	Public partner	Architect	3-5
I	Contractor	Director	11-15	Contractor	Engineer	1-2
J	NSSF	PPP Clerk of works	6-10	Public partner	Engineer	1-2
K	NSSF	Manager	11-15	Public partner	Quantity surveyor	1-2
L	Maksoor Company	Director	>15	Public partner	Business	3-5
M	NHC	Regional manager	None (< 1 year)	Public partner	Land Valuation agent (Valuer)	Over 10

Notes: [1]NHC = National Housing Corporation; *NSSF = National Social Security Fund; NCC = National Construction Council; TBA = Tanzania Building Agency. *In Tanzania so far NHC is leading housing agency which has carried out a large number of joint venture projects for both commercial and residential properties since 1990s; [2]In Tanzania there are currently only three public organisations undertaking were undertaking PPP in housing projects. These organisations are the National Housing Corporation (NHC); National Social Security Fund (NSSF); and Tanzanian Building Agency (TBA). [3] These organisations (PPP Unit, NCC and PPP coordinating unit) are included as they are responsible with the assessment, approval as well as the coordination of all PPP projects in Tanzania. Have been involved in the formulation of PPP Policy as well as the regulations; [4]The PPP Coordination Unit was established by the *2010 PPP Act* within the Tanzania Investment Centre (TIC) to coordinate and oversee the mainland Tanzanian PPP projects and PPP Financing Unit within the Ministry of Finance with the duty of assessing and examining all PPP proposals in their financial aspects

Table III: Ranking of policy and regulatory framework factors and pitfalls

Policy and regulatory framework factors and pitfalls	*t*-test ($\mu = 3.5$)	*df*	Sig (2-tailed)	Mean Score[1,2]	Std. Dev	Rank	Significant (p <0.05)
Policy and regulatory framework factors							
Current PPP policy and guidelines needs further improvement	1.924	26	.065	3.889	1.050	1	No
Tanzania has a PPP policy and clear regulatory framework	.088	26	.930	3.519	1.087	2	No
Provides adequate opportunity to attract more private partners	-1.616	26	.118	3.111	1.251	3	No
The Tanzanian PPP policy and regulatory framework is clear and provides appropriate guidance for PPP project implementation	-2.478	26	**.020***	2.963	1.126	4	Yes
Pitfalls							
Pitfall 1 = Poor planning skills and analytical capacity in formulating affordable housing proposals	15.000	27	**.000***	4.750	0.441	1	Yes
Pitfall 2 = High costs of building materials	10.832	26	**.000***	4.556	0.506	2	Yes
Pitfall 3 = Inadequate access to housing finance	8.855	27	**.000***	4.464	0.576	3	Yes
Pitfall 4 = High costs and difficulties of acquiring land	2.533	26	**.018***	3.926	0.874	4	Yes
Pitfall 5 = Poor access to land	.986	27	.333	3.714	1.150	5	No
Pitfall 6 = Poor project planning	.935	26	.358	3.714	1.213	6	No
Pitfall 7 = Lack of Government subsidies	1.044	27	.306	3.679	0.693	7	No
Pitfall 8 = Poor performance by the housing sectors in the country	-.166	27	.869	3.464	1.138	8	No

Notes: *Results significant at 95% level (p < 0.05); df = degrees of freedom. [1]Mean score based on valid list-wise N = 28; [2]Mean score of the 'policy and regulatory factor' and 'pitfalls' variables where 5 = strongly agree; 4 = Agree; 3 = Neutral; 2 = Disagree; and 1 = Strongly disagree; [2]The higher the mean score the more important the 'policy and regulatory factor' or critical the pitfalls (challenges).

Table IV: Inter-item Kendall's tau_b Correlations of the pitfalls (challenges)

		Coefficient of determination (γ^2) or amount of variance							
		Pitfall 1	Pitfall 2	Pitfall 3	Pitfall 4	Pitfall 5	Pitfall 6	Pitfall 7	Pitfall 8
Pitfall 1	Correlation coefficient	1.000	3.31	23.72	5.06	1.08	0.922	3.31	0.941
	Sig. (2-tailed)	.							
Pitfall 2	Correlation coefficient	.182	1.000	8.58	5.19	34.57	0.476	4.79	5.62
	Sig. (2-tailed)	.300	.						
Pitfall 3	Correlation coefficient	***.487****	.293	1.000	1.79	0.312	0.348	4.45	0.036
	Sig. (2-tailed)	.012	.110	.					
Pitfall 4	Correlation coefficient	.225	.228	.134	1.000	0.723	0.723	13.32	1.613
	Sig. (2-tailed)	.193	.162	.457	.				
Pitfall 5	Correlation coefficient	.104	***.588****	.046	.085	1.000	1.29	0.176	0.212
	Sig. (2-tailed)	.570	.001	.804	.617	.			
Pitfall 6	Correlation coefficient	-.096	.069	-.059	.011	-.114	1.000	12.39	0.068
	Sig. (2-tailed)	.587	.676	.746	.946	.511	.		
Pitfall 7	Correlation coefficient	.182	.219	.211	***.365****	-.042	***.352****	1.000	1.02
	Sig. (2-tailed)	.302	.186	.248	.026	.809	.035	.	
Pitfall 8	Correlation coefficient	-.097	-.237	-.019	.127	.046	-.026	.101	1.000
	Sig. (2-tailed)	.609	.184	.923	.470	.802	.885	.575	.

Notes: *n* = 28. The values in italics (bold) and starred are significant at appropriate levels. *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed). The values on the right side of the diagonal are for the 'Coefficient of Determination'. This is the value of the correlation squared, and it provides the proportion of variance accounted for by the relationship. For the detailed explanations of the pitfalls, see Table III.

Table V: Summary of the interviewee perceptions of the pitfalls and categorisation of their practical solutions

No	Pitfalls (Challenges)	Category[1]	Recommended practical solutions
1	Inadequate subsidies	TRA	1. PPP training
2	Lack of government support (and commitment)		2. Capacity building to government stakeholders
3*	*High costs of building materials*		3. Flexibility of PPP trained personnel by Government
4*	*High value added tax (VAT) at 20%*	FIN	4. Removal of VAT on affordable housing
5	Lack of government subsidies		5. Careful financial assessment of private partners
6	Public sector are forced to deliver affordable housing with Government support thus not achieving the affordability aspect		6. Provision of housing loans at zero interest to low income earners
7	Housing is not considered in the government annual budget		7. Formation of PPP facilitation fund to support PPP development and awareness
8*	*Inadequate housing finance*	PROMGT	8. Projects must be approved by PPP Unit prior to start
9*	*Low income groups don't qualify for loans*		9. Adequate feasibility study
10	Lack of housing policy		10. Adequate planning
11	Private partner desire to obtain high profit	ENBENV	11. Provision of attractive environment for private partners to invest in the housing sector
12*	*High land prices*		12. Provision of free land to private developers
13	PPP is very complex and demanding		13. Providing more enabling environment (i.e. Tax holiday to investors)
14	PPP housing projects are not assessed or coordinated by the PPP unit	GOVT	14. Government support of projects by including housing sector in the annual budget
15	PPP approval process is not legally binding nor streamlined		15. Government support
16*	*Less profitable to the developer*	LEG	16. Formulation of clear contracts
17	Not preferred profitable to the private partners	PsTRA	17. Public sector to invest on PPP training to its staff
18*	*Low financial capacity*	EMPR	18. Empowering the PPP unit to take legal action in case of non-adherence to PPP regulations
19*	*Lack of cheap financial market*	STKENG	19. Involving the local community in the supply of low cost houses
20*	*Difficult to pay back the invested capital*	KNOMGT	20. Creating more PPP awareness
21	Lack of mass housing production	R&D	21. Doing more research on building materials so as to come up with cheaper building materials produced locally

Notes: [1] Categorisation of solutions where Tra = Training; Fin = Financial; ProMgt = Project Management; EnbEnv = Enabling environment; Govt = Government; Leg = Legal; PsTr = Public Sector Training; Emp = Empowerment; StkEng = Stakeholder engagement; KnoMg = Knowledge Management; R&D = Research & Development

*These identified pitfalls (in italics) are an *expansion* of some of the pitfalls drawn from the quantitative survey (see **Table III**).